



Accreditation No.

RTL03220

# Accreditation Certificate

## Appendix

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|                    |                                                 |
|--------------------|-------------------------------------------------|
| Type of Laboratory | Testing                                         |
| Name of Laboratory | Labotech International Co., Ltd.                |
| Address            | 1-16, Fukazu-cho, Nishinomiya-shi, Hyogo, Japan |

### 1) Premises on which testing activities are performed

|                                                                    |                                                                                                                                 |
|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Name of Premises                                                   | Nishinomiya-Hama Lab.                                                                                                           |
| Address                                                            | 2-20 Nishinomiya-Hama, Nishinomiya-shi, Hyogo, 662-0934 Japan                                                                   |
| Testing service at permanent facilities or on site testing service | <input checked="" type="checkbox"/> Testing service at permanent facilities<br><input type="checkbox"/> On site testing service |

### Scope of Accreditation

|       |                        |
|-------|------------------------|
| FIELD | M21 Electrical Testing |
|-------|------------------------|

| CODE OF CLASSIFICATION, NAME                                                                                                         | TEST METHOD STANDARD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br><br>M21.4.1 Continuous disturbance tests                    | CISPR 11 (except 10), EN 55011 (except 10)<br>CISPR 22 (except 7), EN 55022 (except 7)<br>CISPR 32 (except Table A.6, Table A.7, Table A.13)<br>EN 55032 (except Table A.6, Table A.7, Table A.13)<br>IEC 61000-6-3, EN 61000-6-3, EN IEC 61000-6-3<br>IEC 61000-6-4, EN 61000-6-4, EN IEC 61000-6-4<br>IEC 60945, EN 60945, JIS F 0812, ETSI EN 301 843-1<br>IEC 60601-1-2, EN 60601-1-2, JIS T 0601-1-2<br>IEC 61326-1, EN 61326-1, EN IEC 61326-1,<br>JIS C 61326-1<br>IEC 61326-2-6, EN 61326-2-6, EN IEC 61326-2-6<br>IEC 62236-3-2 (except Table 1, 1.2), EN 50121-3-2 (except Table 1, 1.2)<br>VCCI-CISPR 32<br>ETSI EN 301 489-1 |
| M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br>M21.4.4 Conducted emission tests at telecommunication ports | CISPR 22 (except 7), EN 55022 (except 7)<br>CISPR 32 (except Table A.6, Table A.7, Table A.13)<br>EN 55032 (except Table A.6, Table A.7, Table A.13)<br>IEC 61000-6-3, EN 61000-6-3, EN IEC 61000-6-3<br>IEC 61000-6-4, EN 61000-6-4, EN IEC 61000-6-4<br>ETSI EN 301 489-1<br>VCCI-CISPR 32                                                                                                                                                                                                                                                                                                                                             |
| M21 Electrical testing<br>M21.4 Electromagnetic compatibility testing<br><br>M21.4.5 Magnetic/Electric field test(up to 30MHz)       | CISPR 11 (except 10)<br>EN 55011 (except 10)<br>IEC 60945, EN 60945, JIS F 0812<br>IEC 60601-1-2, EN 60601-1-2, JIS T 0601-1-2<br>ETSI EN 302 248                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |



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| CODE OF CLASSIFICATION,<br>NAME                                                                                               | TEST METHOD STANDARD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| M21 Electrical testing<br>M21.4 Electromagnetic<br>compatibility testing<br><br>M21.4.6 Electric field<br>test(30MHz to 1GHz) | CISPR 11(except 10), EN 55011 (except 10),<br>CISPR 22 (except 7), EN 55022 (except 7)<br>CISPR 32 (except Table A.6, Table A.7, Table A.13)<br>EN 55032 (except Table A.6, Table A.7, Table A.13)<br>IEC 61000-6-3, EN 61000-6-3, EN IEC 61000-6-3<br>IEC 61000-6-4, EN 61000-6-4, EN IEC 61000-6-4<br>IEC 60945, EN 60945, JIS F 0812<br>ETSI EN 301 843-1<br>IEC 60601-1-2, EN 60601-1-2, JIS T 0601-1-2<br>IEC 61326-1, EN 61326-1, EN IEC 61326-1,<br>JIS C 61326-1<br>IEC 61326-2-6, EN 61326-2-6, EN IEC 61326-2-6<br>IEC 62236-3-2 (except 1.2 of Table 1), EN 50121-3-2 (except 1.2 of<br>Table 1)<br>VCCI-CISPR 32<br>ETSI EN 302 248<br>ETSI EN 301 489-1 |
| M21 Electrical testing<br>M21.4 Electromagnetic<br>compatibility testing<br><br>M21.4.7 Electric field test(1GHz<br>and over) | CISPR 11(except 10), EN 55011 (except 10),<br>CISPR 22 (except 7), EN 55022 (except 7)<br>CISPR 32 (except Table A.6, Table A.7, Table A.13)<br>EN 55032 (except Table A.6, Table A.7, Table A.13)<br>IEC 60945, EN 60945, JIS F 0812<br>ETSI EN 301 843-1<br>IEC 60601-1-2, EN 60601-1-2, JIS T 0601-1-2<br>VCCI-CISPR 32<br>IEC 61000-6-3, EN 61000-6-3, EN IEC 61000-6-3<br>IEC 61000-6-4, EN 61000-6-4, EN IEC 61000-6-4<br>ETSI EN 302 248<br>ETSI EN 301 489-1                                                                                                                                                                                                 |



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| CODE OF CLASSIFICATION, NAME                                                                      | TEST METHOD STANDARD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| M21 Electrical testing<br>M21.5 Environmental testing<br><br>M21.5.18 Vibration tests(sinusoidal) | IEC 60068-2-6 (7, 9, and 11 are limited to visual check by viewing and operation check by electricity. Horizontal: Frequency range 2Hz to 400Hz, Acceleration range $\leq 100\text{m/s}^2$ Displacement range $\leq 45\text{mm p-p}$ , Vertical: Frequency range 2Hz to 400Hz, Acceleration range $\leq 100\text{m/s}^2$ Displacement range $\leq 45\text{mm p-p}$ ),<br>EN 60068-2-6 (7, 9 and 11 are limited to visual check by viewing and operation check by electricity. Horizontal: Frequency range 2Hz to 400Hz, Acceleration range $\leq 100\text{m/s}^2$ Displacement range $\leq 45\text{mm p-p}$ , Vertical: Frequency range 2Hz to 400Hz, Acceleration range $\leq 100\text{m/s}^2$ Displacement range $\leq 45\text{mm p-p}$ ),<br>JIS C 60068-2-6 (7, 9, and 11 are limited to visual check by viewing and operation check by electricity. Horizontal: Frequency range 2Hz to 400Hz, Acceleration range $\leq 100\text{m/s}^2$ Displacement range $\leq 45\text{mm p-p}$ , Vertical: Frequency range 2Hz to 400Hz, Acceleration range $\leq 100\text{m/s}^2$ Displacement range $\leq 45\text{mm p-p}$ ),<br>IEC 60945, EN 60945, JIS F 0812 |
| M21 Electrical testing<br>M21.5 Environmental testing<br><br>M21.5.1 Cold tests                   | IEC 60068-2-1 (6.8, 6.10, and 6.13 are limited to visual check by viewing and operation check by electricity. Test Ab Temperature range $-40^\circ\text{C}$ to $+5^\circ\text{C}$ ),<br>EN 60068-2-1, EN IEC 60068-2-1 (6.8, 6.10, and 6.13 are limited to visual check by viewing and operation check by electricity. Test Ab Temperature range $-40^\circ\text{C}$ to $+5^\circ\text{C}$ ),<br>JIS C 60068-2-1 (6.8, 6.10, and 6.13 are limited to visual check by viewing and operation check by electricity. Test Ab Temperature range $-40^\circ\text{C}$ to $+5^\circ\text{C}$ ),<br>IEC 60945, EN 60945, JIS F 0812                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| M21 Electrical testing<br>M21.5 Environmental testing<br><br>M21.5.2 Dry heat tests               | IEC 60068-2-2 (6.7, 6.9, and 6.13 are limited to visual check by viewing and operation check by electricity. Test Bb Temperature range $\leq 100^\circ\text{C}$ ),<br>EN 60068-2-2, EN IEC 60068-2-2 (6.7, 6.9, and 6.13 are limited to visual check by viewing and operation check by electricity. Test Bb Temperature range $\leq 100^\circ\text{C}$ ),<br>JIS C 60068-2-2 (6.7, 6.9, and 6.13 are limited to visual check by viewing and operation check by electricity. Test Bb Temperature range $\leq 100^\circ\text{C}$ ),<br>IEC 60945, EN 60945, JIS F 0812                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |



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| CODE OF CLASSIFICATION, NAME                                                                                                   | TEST METHOD STANDARD                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| M21 Electrical testing<br>M21.5 Environmental testing<br>M21.5.6 Damp Heat tests, cyclic (12+12-Hour cycle)                    | IEC 60068-2-30 (6, 8, 10 are limited to visual check by viewing and operation check by electricity.),<br>EN 60068-2-30, EN IEC 60068-2-30 (6, 8, 10 are limited to visual check by viewing and operation check by electricity.),<br>JIS C 60068-2-30 (6, 8, 10 are limited to visual check by viewing and operation check by electricity.),<br>IEC 60945, EN 60945, JIS F 0812 |
| M21 Electrical testing<br>M21.27 Radio Transmitter tests<br>M21.27.1 Frequency                                                 | FCC Part 2.1055, 25.202, 74.861, 80.209, 80.213, 87.133, 90.213, 90.215, 101.107<br>ANSI/TIA-603-E<br>ETSI EN 302 248, ETSI EN 303 135 V2.1.1                                                                                                                                                                                                                                  |
| M21 Electrical testing<br>M21.27 Radio Transmitter tests<br>M21.27.2 Occupied frequency bandwidth                              | FCC Part 2.1049, 74.861, 80.209, 80.211, 87.135, 87.137, 87.139, 90.209, 90.210, 101.109                                                                                                                                                                                                                                                                                       |
| M21 Electrical testing<br>M21.27 Radio Transmitter tests<br>M21.27.3 Spurious emission intensity                               | FCC Part 2.1051, 2.1053, 2.1057, 25.204, 74.861, 80.211, 80.217, 80.273, 87.139, 90.210, 101.111<br>ANSI/TIA-603-E<br>ETSI EN 302 248, ETSI EN 303 135 V2.1.1                                                                                                                                                                                                                  |
| M21 Electrical testing<br>M21.27 Radio Transmitter tests<br>M21.27.4 Antenna power                                             | FCC Part 2.1046, 25.204, 25.216, 74.861, 80.215, 80.855, 80.873, 80.909, 80.911, 80.959, 87.131, 90.205, 90.215, 90.217, 101.113<br>ANSI/TIA-603-E<br>ETSI EN 302 248, ETSI EN 303 135 V2.1.1                                                                                                                                                                                  |
| M21 Electrical testing<br>M21.27 Radio Transmitter tests<br>M21.27.8 Carrier-wave power                                        | FCC Part 2.1046, 30.202, 80.215, 87.131, 95.3167<br>ANSI/TIA-603-E<br>ETSI EN 302 248                                                                                                                                                                                                                                                                                          |
| M21 Electrical testing<br>M21.27 Radio Transmitter tests<br>M21.27.11 Transmission rise time and transmission fall time        | FCC Part 2.1047, 80.213, 87.141, 90.207                                                                                                                                                                                                                                                                                                                                        |
| M21 Electrical testing<br>M21.27 Radio Transmitter tests<br>M21.27.12 Adjacent channel leakage power or out-band leakage power | FCC Part 2.1051, 2.1053, 2.1057, 80.211, 80.273, 87.139, 90.210<br>ANSI/TIA-603-E<br>ETSI EN 302 248, ETSI EN 303 135 V2.1.1                                                                                                                                                                                                                                                   |



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| CODE OF CLASSIFICATION,<br>NAME                                                                                                                                                                                                                                                                                                       | TEST METHOD STANDARD                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| M21 Electrical testing<br>M21.28 Radio Receiver tests<br><br>M21.28.1 Limit of radio waves<br>which are secondarily emitted                                                                                                                                                                                                           | FCC Section 2.1051, 2.1053, 2.1057, 80.217, 90.210<br>ANSI/TIA-603-E                                                                       |
| M21 Electrical testing<br>M21.28 Radio Receiver tests<br><br>M21.28.5 Spurious response                                                                                                                                                                                                                                               | ETSI EN 303 135 V2.1.1                                                                                                                     |
| M21 Electrical testing<br>M21.41 Accreditation Scope of<br>EMC laboratory for FCC<br>M21.41.13 Maritime and<br>Aviation Radio Services (FCC<br>Licensed Radio Service<br>Equipment)<br>▪ Part 80<br>▪ Part 87                                                                                                                         | · ANSI/TIA-603-E-2016; [1] or<br>· ANSI C63.26-2015<br><br>(Measurement frequency : up to 40 GHz)                                          |
| M21 Electrical testing<br>M21.41 Accreditation Scope of<br>EMC laboratory for FCC<br>M21.41.14<br>Microwave and Millimeter<br>Bands Radio Services (FCC<br>Licensed Radio Service<br>Equipment)<br>▪ Part 25<br>▪ Part 30<br>▪ Part 74<br>▪ Part 90 (above 3 GHz)<br>▪ Part 95 (above 3 GHz)<br>▪ Part 97 (above 3 GHz)<br>▪ Part 101 | · ANSI/TIA-603-E-2016; [1] or<br>· ANSI/TIA-102.CAAA-E-2016;<br>[1] or<br>· ANSI C63.26-2015<br><br>(Measurement frequency : up to 40 GHz) |